Gaining Time Efficiencies from Web-based Instruction

06/11/2009

Research & Evaluation Team

research_eval@adlnet.gov

Introduction

Research shows that the benefits of online instruction are maximized when instructional designers leverage the flexibility of learning technology, such as providing learners with control over their instructional experience. Classroom instruction often assumes all trainees begin a course with the same knowledge level and requires trainees to learn the same content in the same timeframe. However, online training allows instruction to be individualized and adapted to trainees' existing knowledge and rate of learning, potentially increasing efficiencies and lowering costs. The following paragraphs highlight the results of analyses conducted by the ADL Research and Evaluation Team examining the time efficiencies that can be realized through Web-based instruction (Ely, Sitzmann, & Falkiewicz, 2009).

Self-Paced Web-based Instruction Yields Time Savings

As part of a move toward Web-based instruction, the Center for Surface Combat Systems converted several of their Apprentice Technical Training (ATT) courses from traditional classroom instruction to self-paced Web-based instruction. The current analyses focused on 111 electronics technicians going through ATT. Training consisted of 33 self-paced modules covering a variety of topics such as electricity and circuits. Before trainees could advance to the next module they had to pass a knowledge test and a performance exam.

When delivered via classroom instruction, the training lasted 86 days. However, in the Web-based version of the course, trainees finished in an average of 45 days—a 48% reduction in time to train (see Figure 1). Although trainees varied in the amount of time it took them to complete the course (lengths ranged from 21 to 72 days), the amount of time spent in training did not predict trainees' knowledge levels. Trainees who completed the course in a relatively short amount of time had similar knowledge levels as trainees who spent relatively longer in training. These findings suggest that with online instruction, students can train at their own pace—saving time while still achieving the same level of content mastery.

References

Ely, K., Sitzmann, T., & Falkiewicz, C. (2009). The influence of goal orientation dimensions on time to train in a self-paced training environment. *Learning and Individual Differences, 19,* 146-150.

Figure 1. Variability in time to train.